



8TQ080/S/ 8TQ100/S SCHOTTKY RECTIFIER

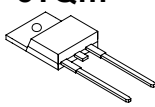
Applications:

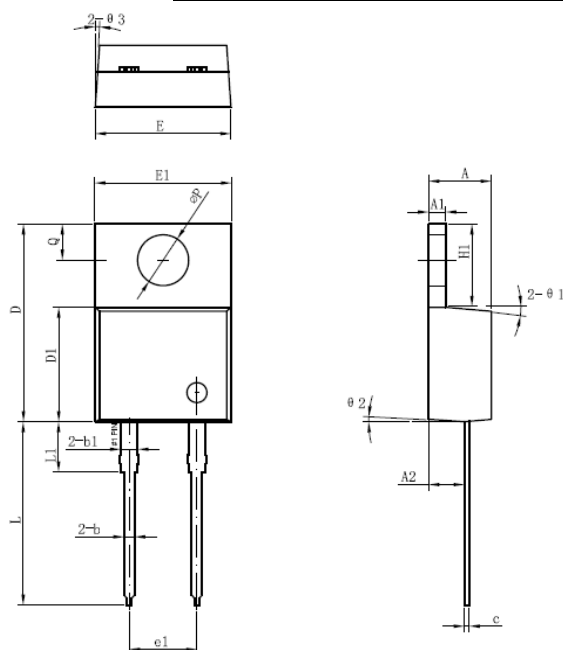
- Switching power supply
- Redundant power subsystems
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 150°C T_J operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

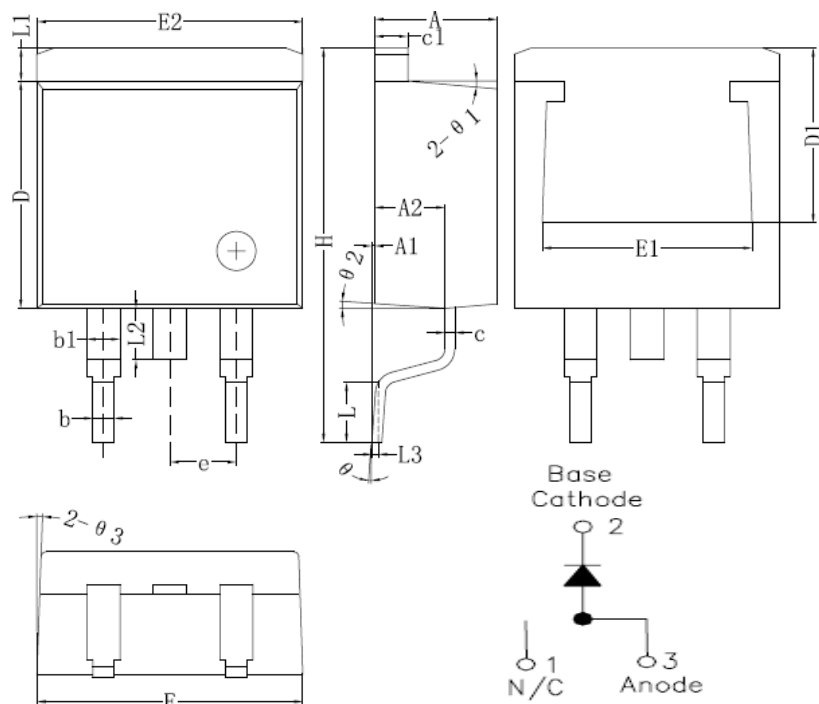
Mechanical Dimensions: In mm / Inches

Case styles	
 8TQ... TO-220AC	 8TQ...S D²PAK



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.64	14.94	15.24
D1	8.55	8.07	8.85
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1		5.08	
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1		3.80	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Ø1		5°	
Ø2		4°	
Ø3		4°	

TO-220AC



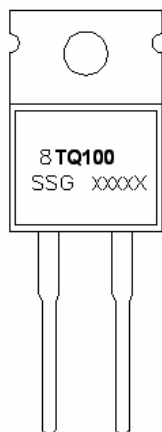
Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40
L2			2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

D²PAK

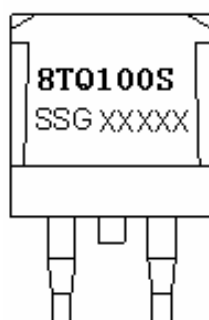


Technical Data
Data Sheet N0639, Rev. -
Marking Diagram:

Green Products



8TQ100



8TQ100S

Where XXXXX is YYWWL

8TQ100 =Part Name
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
8TQ100	TO-220AC (Pb-Free)	50pcs / tube
8TQ100S	D ² PAK (Pb-Free)	800pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	80	(8TQ080)	V
			100	(8TQ100)	
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 116^\circ\text{C}$, rectangular wave form	8		A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	330		A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 0.50\text{A}$, $L = 60\text{mH}$	7.5		mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by $T_J \text{ max. } V_A = 1.5 \times V_R \text{ typical}$	0.50		A



Technical Data

Green Products

Data Sheet N0639, Rev. -

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop *	V_{F1}	@ 8A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	0.75	V
	V_{F2}	@ 8A, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$	0.58	V
Max. Reverse Current at DC condition	I_{R1}	@ V_R = rated V_R $T_J = 25\text{ }^{\circ}\text{C}$	1.0	mA
Max. Reverse Current	I_{R2}	@ V_R = rated V_R $T_J = 125\text{ }^{\circ}\text{C}$	7	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^{\circ}\text{C}$ $f_{SIG} = 1\text{MHz}$	500	pF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change(Rated V_R)	dv/dt	-	10,000	V/ μs

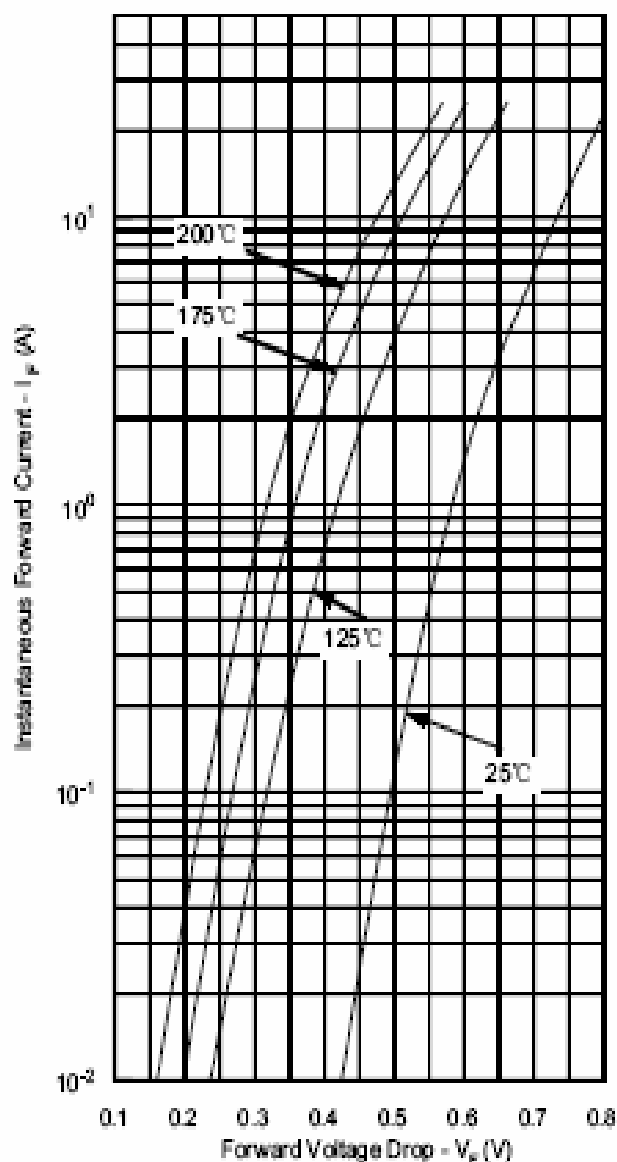
* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications:

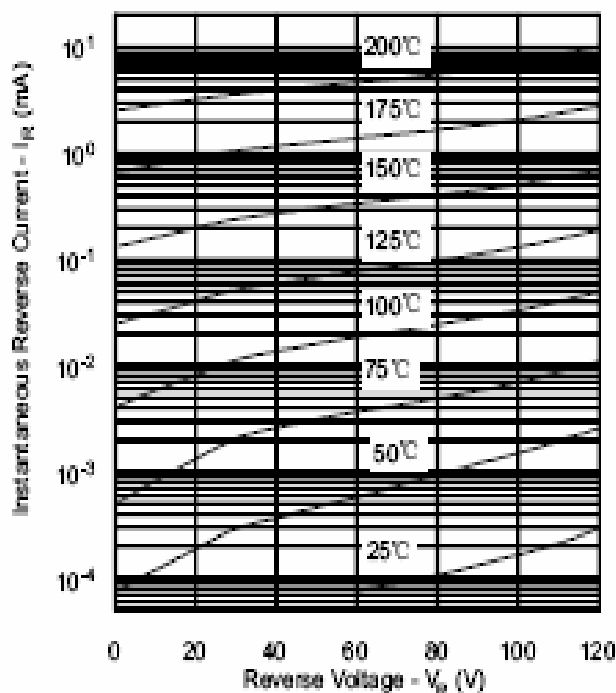
Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	$^{\circ}\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +150	$^{\circ}\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	2.0	$^{\circ}\text{C/W}$
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.50	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	2	g
Case Style	TO-220AC, D ² PAK (Suffix "s" for D ² PAK; "MBRB" for D ² PAK)			



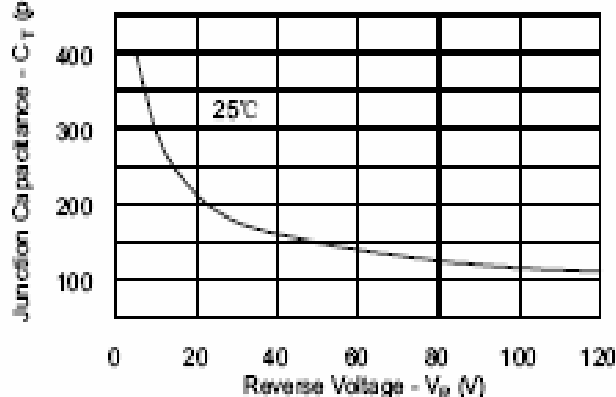
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance





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